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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,346	12/06/2001	George Mermigidis		8557

7590 11/24/2004  
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EXAMINER

DIAMOND, ALAN D

ART UNIT PAPER NUMBER

1753

DATE MAILED: 11/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/806,346

Applicant(s)

MERMIGIDIS, GEORGE

Examiner

Alan Diamond

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 February 2004 and 13 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 10 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

Applicant is advised of the availability of the publication "Attorneys and Agents Registered to Practice Before the U.S. Patent and Trademark Office." This publication is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

### ***Priority***

2. The Examiner has obtained a copy of the instant WIPO-stamped German foreign priority document and said copy has been electronically scanned into the instant IFW file.

### ***Comments***

3. The Examiner acknowledges that the word "said" no longer appears in the abstract.

4. The 35 USC 103(a) rejection over Kawahara et al has been overcome by Applicant's amendment of claim 1 so as to require that the solvent is aprotic. Kawahara et al uses an alcoholic solvent, which is aprotic.

5. The drawing filed 08 February 2004 has not been entered because it does not have the label "Substitute Sheet".
6. Please note that for the purposes of the instant final rejection, when the Examiner refers below to claim line numbers, the term "Claim 1 (currently amended)" has been counted as line 1 for claim 1, and the term "Claim 2 (currently amended)" has been counted as line 1 for claim 2.

***Specification***

7. The substitute specification filed 08 February 2004 (i.e., pages 1-7 filed 08 February 2004, not including the abstract) has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: The substitute specification is not accompanied by a statement that the substitute specification includes no new matter. Please note that practically all of the material added by Applicant in the substitute specification, with the exception of the heading "Brief Description of the Drawing", is considered by the Examiner to be new matter. If applicant should provide a statement of no new matter in an after-final amendment, the Examiner will most likely deny entry due to the new matter issue.
8. The originally disclosure is objected to because of the following informalities: On page 3, at line 30, the term "y-Butyrolactone" should be change to " $\gamma$ -butyrolactone". On page 6, between line 3 and 4, the heading "Brief Description of the Drawing" should be inserted. Appropriate correction is required.
9. The amendment filed 08 February 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no

amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: In the abstract, the newly added recitation that the paste is free from water and binder agents is not supported by the originally filed disclosure. Furthermore, the newly added recitation in the abstract that the paste contains "only carbon" is not supported by the originally filed disclosure. The originally filed disclosure is silent concerning the desire to exclude water, and does not support a paste made only from carbon. There are other ingredients in the paste in addition to the carbon.

Applicant is required to cancel the new matter in the reply to this Office Action.

#### ***Claim Objections***

10. Claims 3, 4, and 10 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims 3, 4, and 10 have not been further treated on the merits.

11. Claims 1 and 2 are objected to because of the following informalities: In claim 1 at line 6, and in claim 2 at line 6, the term "a aprotic" should be changed to "an aprotic". Appropriate correction is required.

#### ***Suggested Claim Language***

12. In claim 1, at steps c) and d), it is suggested that "substantially" be changed to "approximately". In claim 2, at line 3, both occurrences of the term "electrolyte" should be change to "electrolytic" so as to be consistent with claim 1.

#### ***Claim Rejections - 35 USC § 112***

Art Unit: 1753

13. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

14. Claims 1 and 2 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, at line 3, the term "free from water" is not supported by the specification, as originally filed. The same applies to dependent claim 2. The originally filed specification is silent concerning the desire to exclude water.

In claim 1, at line 8, the "pure aprotic solvent" and the "aprotic solvent" are not supported by the specification, as originally filed. The Examiner acknowledges that  $\gamma$ -butyrolactone in claim 2 is an aprotic solvent. However, the recitation of  $\gamma$ -butyrolactone is not sufficient support for all aprotic solvents. The specification is silent concerning the use of any pure solvents.

15. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, at line 7, the term "or a mixture of both" is redundant and should be deleted. Note that said lines 6-7 of claim 1 already recite "electrolytic salts and/or electrolytic auxiliary". The means, on the one hand, electrolytic salts and electrolytic

auxiliary (i.e., the mixture); and on the other hand, electrolytic salts or electrolytic auxiliary. The same applies to dependent claim 2.

In claim 1, at lines 10 and 13, it is not clear what is meant by the term "or a mixture of at less two of this components". It is suggested that said term be changed to "or a mixture of at least two of these components".

In claim 1, at step c) is now not clear which of the solvents in step a) is being referred to. It is suggested that step c), in its entirety, be rewritten as follows: c) stirring the suspension from step b) so as to produce an approximately homogeneous suspension and.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al, EP 917226 A2.

Sugawara et al prepares a printable paste for an electrode by mixing carbon powder that supports a platinum catalyst and fine carbon powder with n-butyl acetate aprotic solvent; adding alcoholic solution of a polymer electrolyte; and then making the resulting mixture into the form of a paste by use of an ultrasonic dispenser (see paragraphs 0028 and 0042). The recitation "for a counter electrode containing an electrolyte for a photoelectrochemical cell" in the instant claim is merely intended use

and is not deemed to be a positive limitation in the claim. Sugawara et al teaches the limitations of the instant claim other than the difference which is discussed below.

Sugawara et al does not specifically require, for example that the butyl acetate is pure. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used pure butyl acetate so to keep the amount of impurity in the final paste to a minimum.

Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have first added the carbon powder that supports a platinum catalyst (electrolytic auxiliary) to the butyl acetate to produce a mixture, and then to have added the carbon fine powder to said mixture because the result obtained would be the same as that obtained from first mixing the carbon powder that supports a platinum catalyst and the carbon fine powder and then adding the mixture to the butyl-acetate.

### ***Conclusion***

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

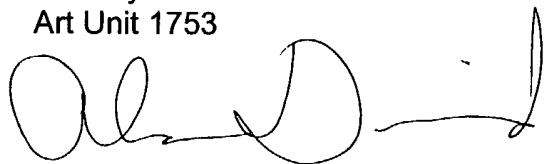
19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alan Diamond  
November 19, 2004

Alan Diamond  
Primary Examiner  
Art Unit 1753

A handwritten signature in black ink, appearing to read 'Alan Diamond', with a long horizontal stroke extending to the right.